

CLAIMS

What is claimed:

1. A system for remotely controlling devices, comprising:
a foot pedal unit having a moveable member; and,
a transmitter operatively associated with the moveable member, the transmitter transmitting a first signal in response to at least partial displacement of the moveable member when a first device is selected, the transmitter transmitting a second signal in response to at least partial displacement of the moveable member when a second device is selected.
2. The system of claim 1 wherein said transmitter comprises an RF transmitter and said first signal comprises a first RF signal and said second signal comprises a second RF signal.
3. The system of claim 2 further comprising a first device actuation unit configured to receive the first RF signal and to actuate the first device based on the first RF signal.
4. The system of claim 3 wherein the first device actuation unit includes a first microprocessor and an RF receiver operably coupled to the first microprocessor.
5. The system of claim 3 further comprising a second device actuation unit configured to receive the second RF signal and to actuate the second device based on the second RF signal.
6. The system of claim 2 further comprising a first microprocessor operatively coupled to the RF transmitter, the first microprocessor configured to induce the RF transmitter to transmit the first RF signal in response to at least partial displacement of the moveable member when the first device is selected.

7. The system of claim 6 further comprising an electrical switch operatively coupled to the moveable member and to the first microprocessor, wherein at least partial displacement of the moveable member actuates the electrical switch, the first microprocessor configured to induce the transmitter to transmit the first signal in response to actuation of the switch.

8. The system of claim 6 further comprising a pneumatic valve coupled to a conduit, the valve further operatively coupled to the moveable member, the system further including a pneumatic switch operatively coupled to the first microprocessor and to the conduit, wherein at least partial displacement of the moveable member actuates the pneumatic valve increasing a pressure in the conduit, when the pressure is greater than a predetermined pressure the pneumatic switch is actuated inducing the first microprocessor to induce the RF transmitter to transmit the first RF signal.

9. The system of claim 6 further comprising a pneumatic valve operatively coupled to a conduit, the valve being further operatively coupled to the movable member, the valve opening in response to at least partial displacement of the moveable member, the system further including a pressure sensor coupled to the conduit generating a pressure signal indicative of the pressure in the conduit that is transmitted to the first microprocessor.

10. The system of claim 9 wherein the first microprocessor is configured to induce the RF transmitter to generate the first RF signal when the pressure signal indicates the pressure is greater than a predetermined pressure.

11. The system of claim 9 wherein the first microprocessor is configured to induce the RF transmitter to generate the first RF signal containing a command value determined from the pressure signal.

12. The system of claim 6 further comprising a position sensor operatively coupled to the movable member of the foot pedal unit, the position sensor generating a third signal indicative of a position of the moveable member that is received by the first microprocessor, the microprocessor generating the first RF signal containing a command value determined from the position signal.
13. The system of claim 12 wherein the position signal is indicative of an angular position of the movable member.
14. The system of claim 12 wherein the position signal is indicative of a linear position of the movable member.
15. The system of claim 1 wherein the first device comprises a dental implement.
16. The system of claim 1 wherein the first device comprises a medical implement.
17. The system of claim 1 wherein the first device comprises one of a drill, a microprocessor position-controllable dental chair, an infrared photo-optic imaging camera, a dental irrigator, an intra-oral camera, a video capture circuit, a laser, an air-abrasion unit, an electro-surgery unit, an ultrasonic teeth cleaning unit, a piezo-ultrasonic unit, an air polishing prophylaxis device, a gum depth measurement probe, a surgical microscope with controllable focusing adjustment, a microprocessor controlled anesthetic delivery system, and an endodontic heat source device.
18. The system of claim 1 wherein the first device comprises a video capture board, the system further comprising a first device actuation unit operatively coupled to the video capture board, the first device actuation unit configured to receive the first RF signal and to induce the video capture board to store a video image in a memory in response to the first RF signal.

19. The system of claim 1 wherein said transmitter comprises an infrared transmitter and said first signal comprises a first infrared signal and said second signal comprises a second infrared signal.
20. The system of claim 1 further comprising:
 - a first microprocessor operatively coupled to a receiver, and
 - a transmitter unit configured to transmit a third signal indicative of a first identifier associated with the first device for selecting the first device, the first microprocessor being further configured to store the first identifier in a memory when the third signal is received by the receiver.
21. The system of claim 1 wherein the receiver comprises an RF receiver and the transmitter unit comprises an RF transmitter unit, the third signal comprising a third RF signal.
22. A method for remotely controlling devices, comprising:
 - transmitting a first signal in response to at least partial displacement of a moveable member on a foot pedal unit when a first device is selected; and,
 - transmitting a second signal in response to at least partial displacement of the moveable member on the foot pedal unit when a second device is selected; and,
 - controlling the first device based on the first signal.
23. The method of claim 22 wherein said first and second signals comprise first and second RF signals, respectively.
24. The method of claim 22 further comprising controlling the second device based on the second signal.
25. The method of claim 22 wherein the first device comprises a dental implement or a medical implement.

26. The method of claim 22 wherein the first device comprises one of a drill, a microprocessor position-controllable dental chair, an infrared photo-optic imaging camera, a dental irrigator, an intra-oral camera, a video capture circuit, a laser, an air-abrasion unit, an electro-surgery unit, an ultrasonic teeth cleaning unit, a piezo-ultrasonic unit, an air polishing prophylaxis device, a gum depth measurement probe, a surgical microscope with controllable focusing adjustment, a microprocessor controlled anesthetic delivery system, and an endodontic heat source device.

27. The method of claim 22 wherein the controlling step includes inducing a video capture board to store a video image in a memory in response to the first signal.